

We claim

1. A salt of α -lipoic acid of the general formula I

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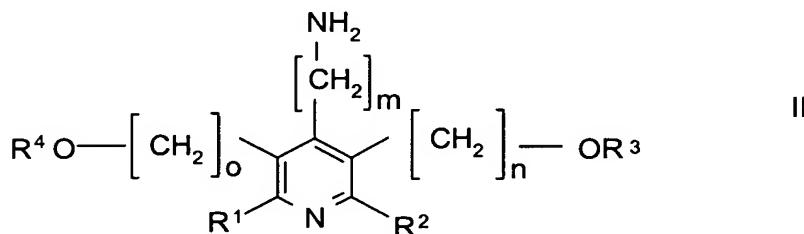
(Lp) (A)

I

where

Lp is racemic α -lipoic acid, racemic dihydro- α -lipoic acid, (R)- or (S)- α -lipoic acid, (R)- or (S)-dihydro- α -lipoic acid and all mixtures of the respective enantiomeric forms (R) and (S)

A is an amine of the general formula II



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in which

R^1, R^2 are hydrogen, C₁- to C₆-alkyl,

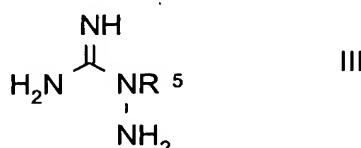
R^3, R^4 independently are hydrogen, C₁- to C₈-alkyl, C₁- to C₈-acyl, phosphate, diphosphate, triphosphate

m, n, o are 0, 1, 2, 3,

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or

- A is an amine of the general formula III



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in which

R^5 is selected from the group consisting of hydrogen, C₁- to C₆-alkyl, phenyl, benzyl.

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2. The salt according to claim 1, where A is an amine of the formula II.

3. The salt according to claim 2, where R^1, R^2 are hydrogen or methyl.

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4. The salt according to claim 2, where n is 1.

5. The salt according to claim 2, where either n or o is greater than zero.
6. The salt according to claim 2, where R³ is hydrogen.
- 5 7. The salt according to claim 2, where A is pyridoxamine.
8. The salt of the formula I according to claim 1, where A is aminoguanidine.
- 10 9. A process for preparing salts of α-lipoic acid of the general formula I according to claim 1, by reacting racemic α-lipoic acid, racemic dihydro-α-lipoic acid, (R)- or (S)-α-lipoic acid, (R)- or (S)-dihydro-α-lipoic acid or all mixtures of the respective enantiomeric forms (R) and (S) with amines of general formulae II or III in solution at a temperature from 40 to 80°C and isolating the solid I in a manner known per se.
- 15 10. The process according to claim 9, wherein alcohols are employed as solvents.
11. The use of salts according to claims 1 to 8 as component in pharmaceutical, dermatological, cosmetic compositions, in human foods, or animal or human dietary supplements.
- 20 12. A human food or animal or human dietary supplement comprising salts according to claims 1 to 8.
- 25 13. A dermatological composition comprising salts according to claims 1 to 8 and a dermatologically acceptable formulation base.
14. A cosmetic composition comprising salts according to claims 1 to 8 and a cosmetically acceptable carrier.
- 30 15. A pharmaceutical composition comprising salts according to claims 1 to 8, customary pharmaceutical carriers, excipients and, where appropriate, diluents.

Stable ammonium salts of α -lipoic acid, the production thereof and the use of the same

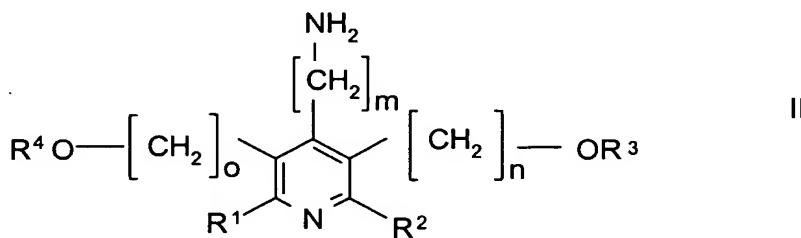
Abstract

- 5 The present invention relates to ammonium salts of α -lipoic acid of the general formula I



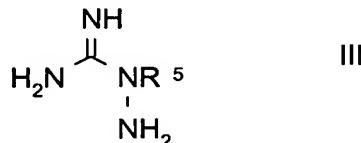
formed from α -lipoic acid (Lp) and amino compounds (A) of the general formula II

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or of the general formula III

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The present invention also relates to processes for preparing these salts, to the use of these salts as component in pharmaceutical, dermatological, cosmetic compositions, in human foods, animal or human dietary supplements. The invention also relates to

- 20 pharmaceutical, dermatological, cosmetic compositions, human foods and animal or human dietary supplements in which the salts of the invention are used.